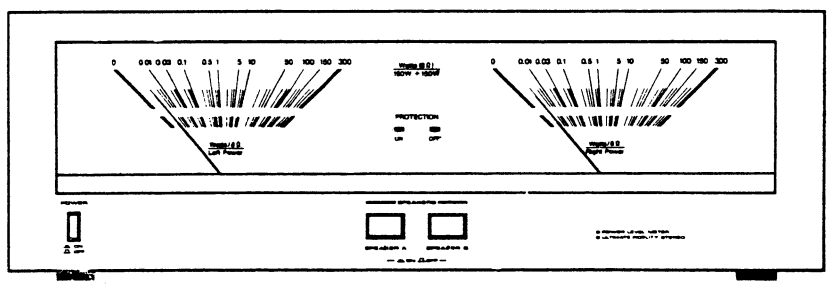
Lenco
AF 3302

Service Manual

MODELS

LA1200 STEREO POWER AMPLIFIER



LA1200 STEREO POWER AMPUFIER

SPECIFICATIONS

Amplifier Section
Continuous average power output
(both channel driven)
into 8 Ohms (from 20Hz to 20kHz) 125W
into 8 Ohms (from 1kHz) 150W
into 4 Ohms (from 1kHz) 200W

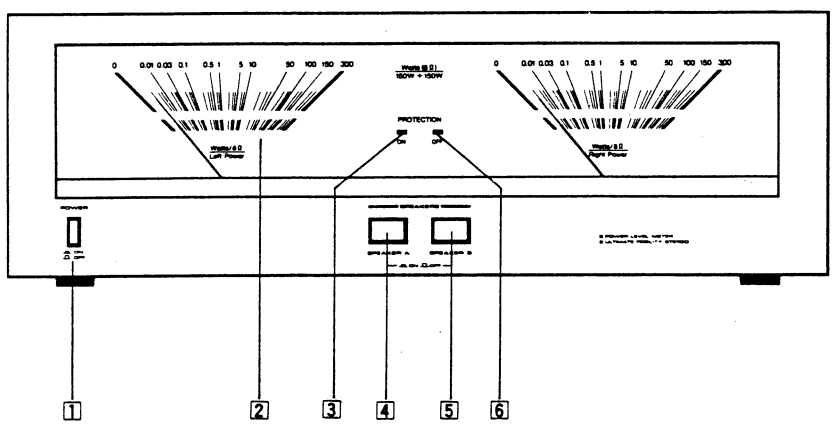
Total Harmonic Distortion
into 8 Ohms (from 20Hz to 20kHz) 0.1%
into 8 Ohms (from 1kHz) 0.03%
into 4 Ohms (from 1kHz) 0.05%

I.M. Distortion 0.03%
Signal to Noise Ratio (IHF "A" Network) 120dB
Input (Sensitivity/Impedance) 1V/47kΩ

Frequency Response
20Hz to 150kHz ..... −3dB
Damping Factor 45
Power "ON" Muting Time ..... 5—7 sec

Miscellaneous
Power requirements ..... AC220V, 50 Hz
Power Consumption ..... 435 W, 530VA
Dimension ..... 420(W) × 132(H) × 350(A)mm

FRONT PANEL FEATURES



1. POWER SWITCH

Depress switch to ON position to supply power to the amplifier.

2. OUTPUT LEVEL METER

The output power level meters give a visual indication of audio power being delivered to each speaker.

3 6 PROTECTION CIRCUIT OPERATION INDICATOR LAMP

A red LED indicates when the protection circuit is activated and a green LED indicates when the protection circuit is off.

The protection circuit activates for a 5—7 second period when the unit is powered on and whenever the unit overheats beyond a specific temperature.

4. SPEAKER "A" SELECTOR SWITCH

Depress button to listen to the speaker systems connected to the speaker A terminals.

(ON) — Depressed position; Sound is heard from speaker systems.

(OFF) — Released position; NO sound is heard from speaker systems.

5. SPEAKER "B" SELECTOR SWITCH

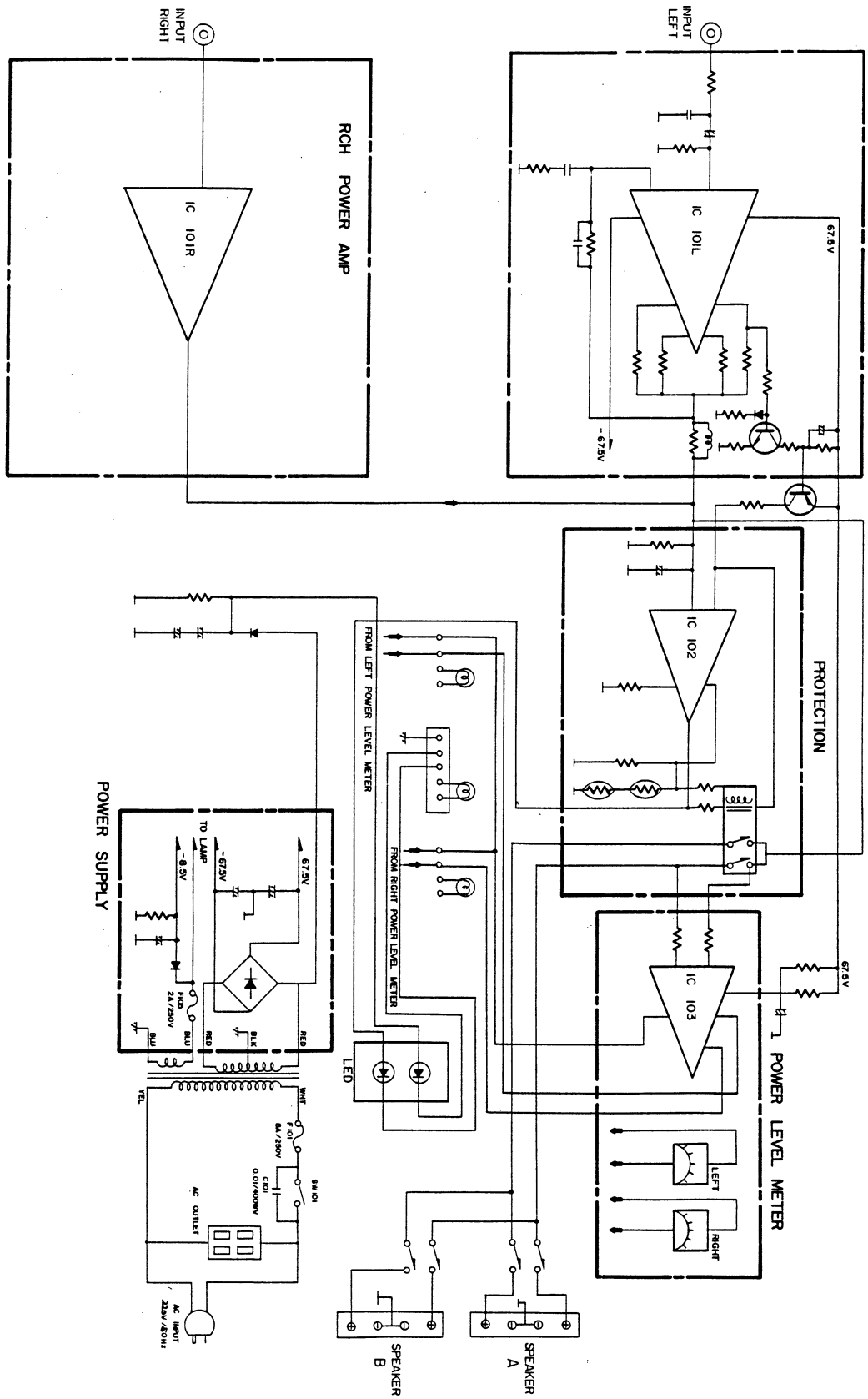
Depress button to listen to the speaker systems connected to the speaker B terminals.

(ON) — Depressed position; Sound is heard from speaker systems.

(OFF) — Released position; NO sound is heard from speaker systems.

Note : When both buttons are depressed both speaker pairs A and B are selected.

BLOCK DIAGRAM



EXPLODED VIEW PARTS LIST

NOTES:

- Parts without part number cannot be supplied.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to parts of identical designation.
- For your Parts Stock Control, the fast moving items are indicated with the marks **and**
  GENERALLY MOVES FASTER THAN
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.*

Mark	No.	Part No.	Description
	1	NNB-123-0	Front Panel
	2	NNA-284-C	Panel Stay
	3	NND-038-A	Bottom Plate
	4	NNA-283-A	Side Frame
	5	NNA-343-0	Rear chassis
	6	NNE-051-A	Bonnet Case
	7	NNW-766-A	Reflector
⚠	8	NTT-147-0	Transformer
	9	NKE-004-0	Push Terminal
	10	NNW-775-0	Function Knob 'B'
	11	NNN-825-A	Window
	12	NNW-959-A	Sub Escutcheon
	13	NNM-045-0	LED Sheet
	14	NNW-711-0	Power Knob
	15	NNM-062-0	Sub Plate
	16	NEL-003-B	Pilot Lamp Ass'y
⚠	17	NSA-005-0	Push S/W (ESB997V8)
	*18	NEK-102-0	Fuse (2A)
⚠	19	NNP-064-0	AC Outlet (S-16521#01)
	20	NWT-024-0	2P Phone Jack
	21	NKR-008-0	Fuse Holder
	*22	NEK-105-0	Fuse (8A)
	23	406000009000	Strain Relief Bushing
⚠	24	NDG-023-0	Power Cord
	25	NAW-023-A	Meter
	26	NNV-006-0	Foot

Mark	No.	Part No.	Description
	27	VBZ30P080FMC	Screw
	28	BBZ30P080FMC	Screw
	29	VBZ30P080FMC	Screw
	30	BBZ30P080FMC	Screw
	31	VMZ30P080FMC	Screw
	32	BBZ30P080FMC	Screw
	33	BBZ30P060FMC	Screw
	34	VBZ30P100FMC	Screw
	35	VBZ40P080FMC	Screw
	36	BBZ30P080FZK	Screw
	38	BBZ30P080FZK	Screw
	39	VBZ30P080FZK	Screw
	40	FBT40P080FZK	Screw
	41	BBZ30P080FZK	Screw
	42	BBZ30P080FZK	Screw
	43	NBM-007-0	Plastic Rivet
	44	BBZ30P080FMC	Screw
	45	BBZ30P080FMC	Screw
	46	VMZ30P080FMC	Screw
	47	NNM-062-0	Sub Plate
	48	NWH-017-0	Main P.C.P Ass'y
	49	NNW-906-0	Joint
	50	BBZ30P080FMC	Screw
	51	NNF-151-0	Heat Sink Support
	52	NNH-065-0	Heat Sink

METER ADJUSTMENT

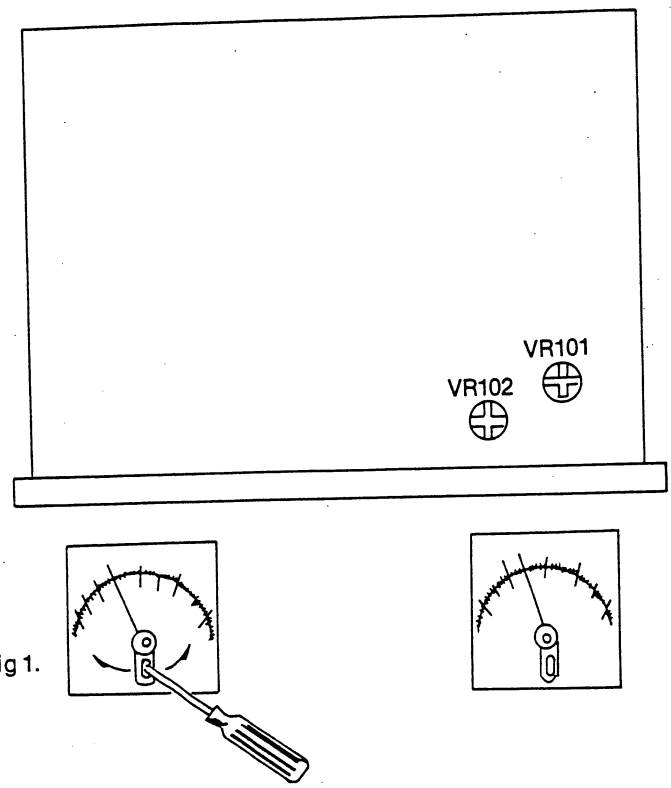


Fig 1.

1. POWER METER ADJUSTMENT WITH POWER "OFF"
   Remove front panel and adjust the meter needle to "0" on the scale (Fig. 1)
2. POWER METER ADJUSTMENT WITH POWER "ON"
   Turn power on, feed a 1kHz, 1V RMS signal from a signal generator to the L channel input jack of the PA-1200B With the speaker or 8 ohm dummy look removed, adjust VR102 till the meter needle points to "low" on the scale.
3. Set R channel meter by adjusting VR101 in the same manner and signal fed into the R channel input jack.

ELECTRICAL PARTS LIST

NOTES:

- When ordering resistors, first convert resistance values into code form as shown in the following examples.

  Ex. 1. When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

  560 Ω=56 × 10^1 → 561..... RD¼PS 561J

  47KΩ= 47 × 10^3→473 ..... RD¼PS 473J

  0.5 Ω → 0R5..... RN2H 0R5K

  1Ω → 010..... RS1P 010K

  Ex. 2. When there are 3 effective digits (such as in high precision metal film resistors).

  5.62kΩ 562 × 10^1 5621..... RN¼SR5621F

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- For your Parts Stock Control, the fast moving items are indicated with the marks **and**

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Miscellaneous Parts List

P.C. BOARD ASSEMBLIES

Mark	Symbol & Description	Part No.
	PCB B'D	NNP-294-A
	Main PCB Ass'y	NWM-106-0
	LED PCB Ass'y	NWS-057-0
	Jack PCB Ass'y	NWS-058-0

OTHERS

Mark	Symbol & Description	Part No.
** ⚠	Ceramic Capacitor (0.01 400V)	NCG-002-0
⚠	Power transformer	NTT-147-0
⚠	AC Socket (3P) (AC Outlets)	NKP-064-0
⚠	Fuse	NEK-102-0
⚠	Fuse	NEK-105-0
**	AC Power Cord	NDG-023-0
⚠	Switch (Power)	NSA-005-0

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
**	IC101 LR	STK4048XI
**	IC102	TA7317P
**	IC103	TA7318P
*	Q101 LR	KTC2240Y or GR
*	Q102	KTA970Y or GR
*	Q103, Q104	KTC1815Y or GR
*	D106	BR252
*	D101 L/R,D102, D107, D108	IN4002
*	D109 L/R	IS2473
*	D103	IN965A or DZ15E

RELAY

MARK	Symbol & Description	Part No.
	RLY101	NSR-016-0

COILS

Mark	Symbol & Description	Part No.
	L101 LR (AF COIL)	ATH-054-0

SWITCH

Mark	Symbol & Description	Part No.
	SW103, SW104 (Push Switch)	NSA-004-0

OTHERS

Mark	Symbol & Description	Part No.
	2P Pin Jack	NKB-002-2

RESISTORS

Mark	Symbol & Description	Part No.
	R109 L/R, R110, L/R, R111 L/R, R112 L/R	NCN-010-0
	R139, R140	RD¼PM150J
	R116L/R	RD¼PM331J
	R118L/R	RD¼PM821J
	R101, L/R, R103 L/R, R123	RD¼PM102J
	R104L/R	RD¼PM561J
	R125, R132, R146, R149	RD¼PM222J
	R120	RD¼PM512J
	R117L/R	RD¼PM562J
	R107 L/R, R147, R148, R151, R153	RD¼PM103J
	R119	RD¼PM123J
	R124, R127, R105 L/R	RD¼PM203J
	R129	RD¼PM333J
	R115 L/R, R121, R135, R136, R145	RD¼PM473J
	R152, R102 L/R	
	R130	RD¼PM563J
	R122, R131	RD¼PM104J
	R126	RD¼PM224J
	R128	RD¼PM332J
	R143, R144, R150	RD¼PM101J

CAPACITORS

Mark	Symbol & Dcscription	
	C122	CEAR47M50L
	C110 L/R, C111 L/R, C115L C116L, C137 L/R	CEA010M50L
	C102 L/R, C136	CEA4R7M50L
	C123, C124, C125, C126, C138, C139	CEA100M50L
	C118	CEA220M25L
	C120	CEA330M25L
	C119	CEA470M25L
	C104 L/R	CEA101M25L
	C108 L/R, C109 L/R, C106R, C107R	CEA221M50L
	C106L, C107L	CEA221M35L
	C105 L/R	CCDSL100J50
	C103 L/R, C112 L/R, C114 L/R	CCDSL101J50
	C101L/R	CCDSL471J50
	C113 L/R	CKDYB102J50
	C127, C128	CQMA102J50
	C121	CQMA103J50
	C117 L/R	CQMA473J50

RESISTORS

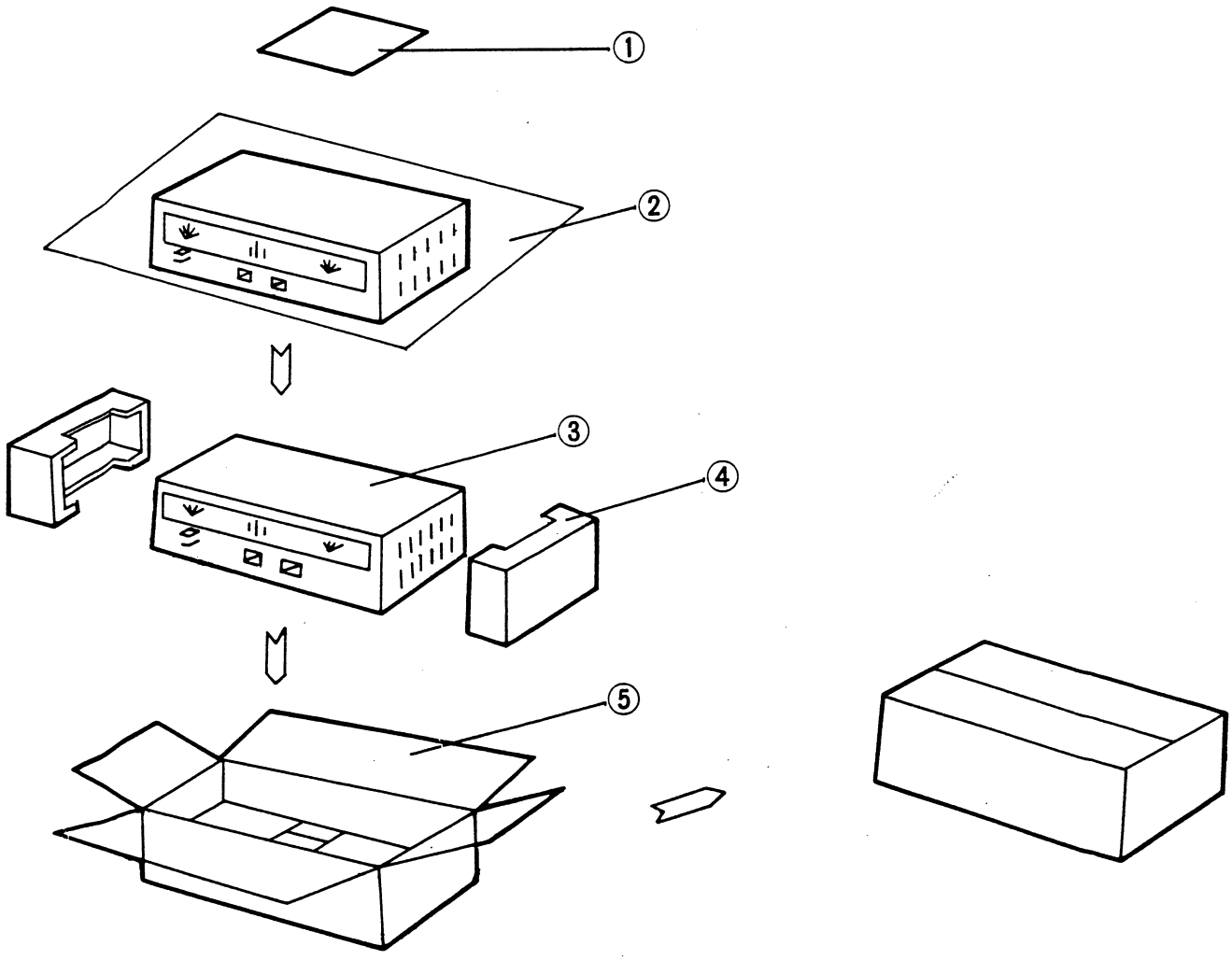
Mark	Symbol & Description	Part No.
	VR101, VR102	NCP-034-0
⚠	R113 L/R, R114 L/R	RSIL100J
⚠	R106, L/R, R108 L/R	RSIL101J
⚠	R133, R134	RSIL332J
⚠	R137, R138, R141, R142	RSIL682J

CAPACITORS

Mark	Symbol & Description	Part No.
	C130, C131, C132, C133	NCG-001-1
	C134, C135 (10,000/80WV)	NCH-010-0

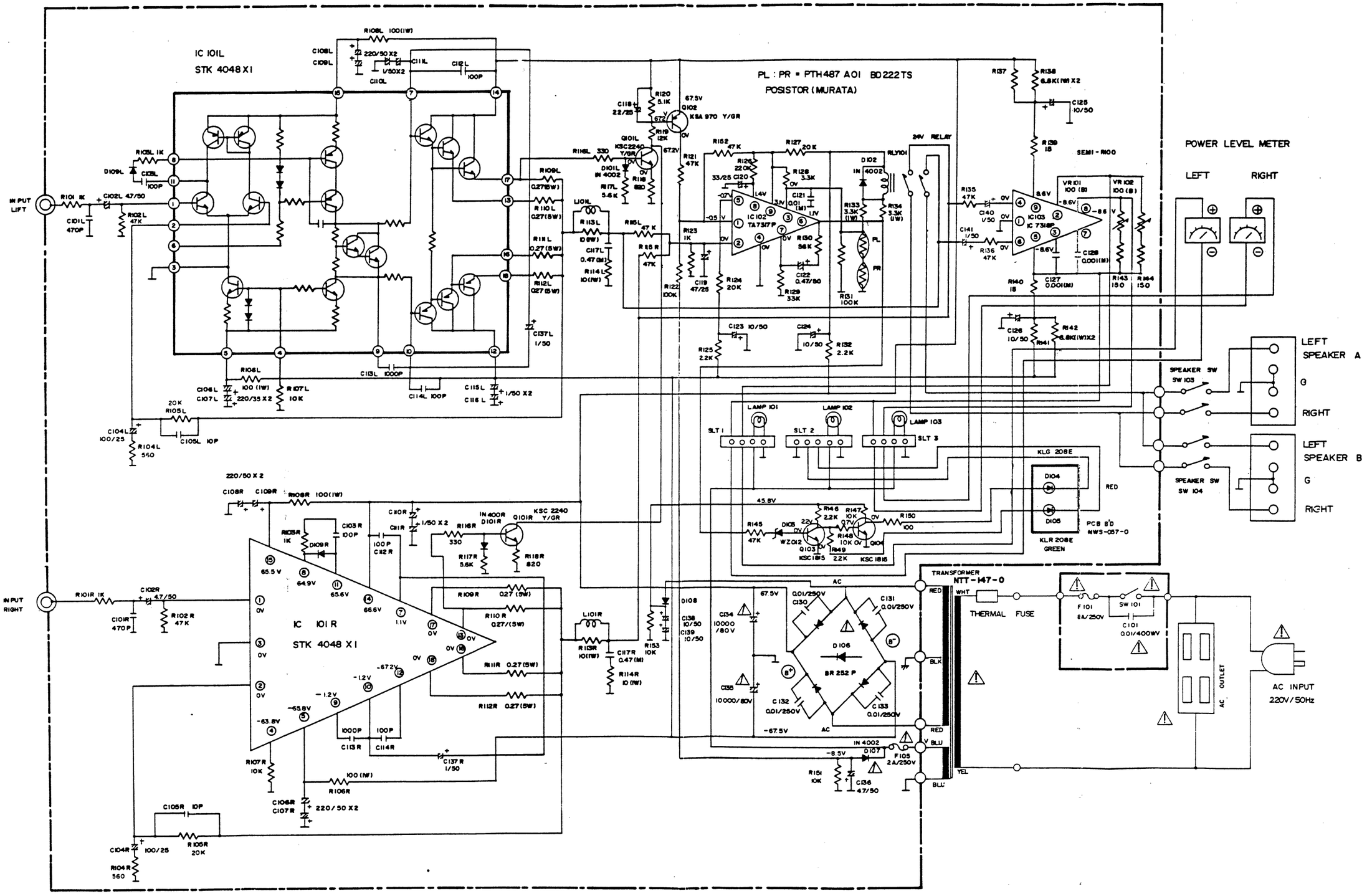
PACKING

Mark	No.	Part No.	Description
	1	NRB-023-0	Operating Instruction
	2	NEC-009-0	Poly Sheet
	3		Power Amp Set
	4	NHA-256-0	Side Pad (R. L)
	5	NHG-273-0	Packing Case

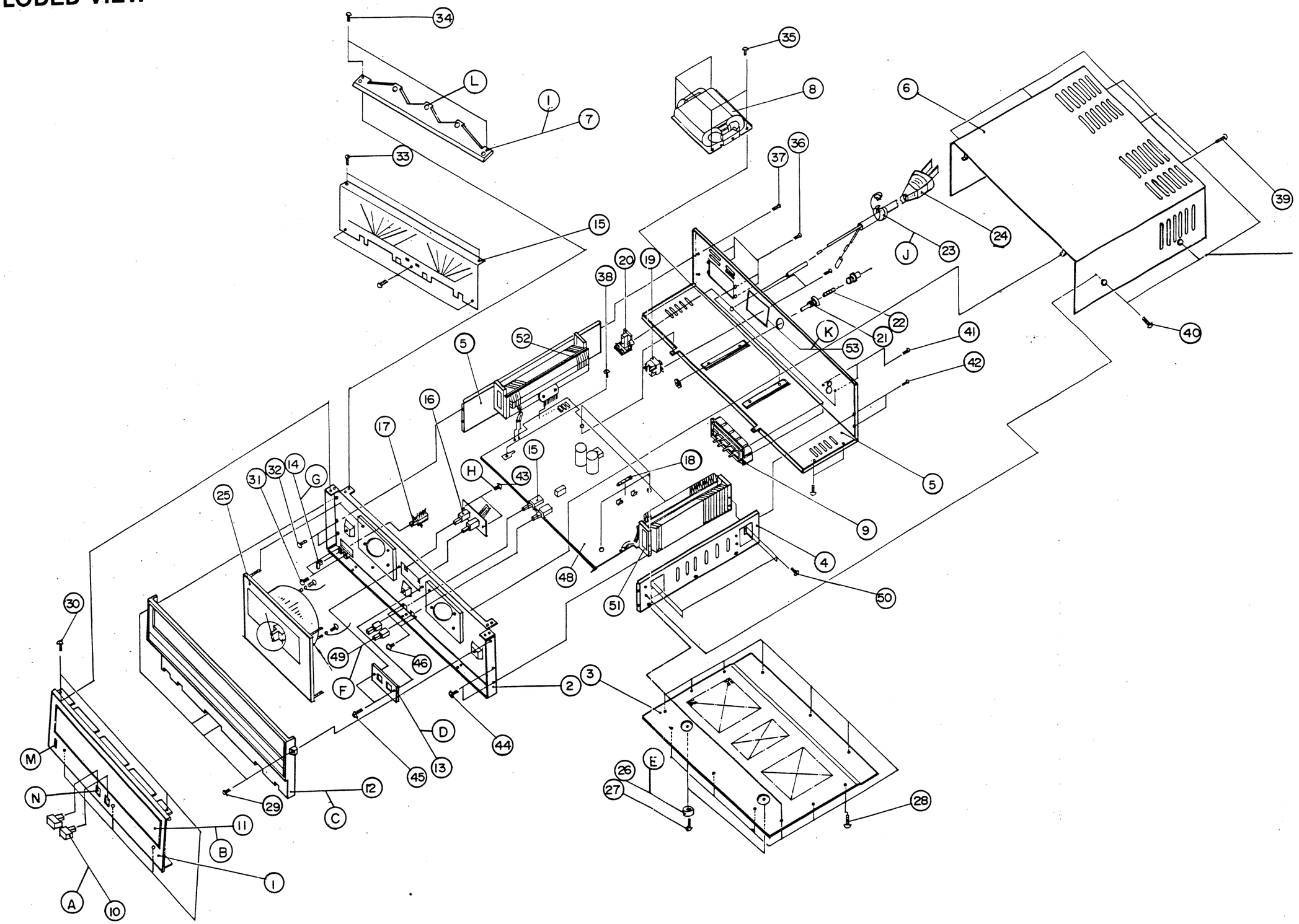


SCHEMATIC DIAGRAM

PCB NNP-294-A
MAIN B'd
NWM-106-0



EXPLODED VIEW



TOP VIEW OF P.C. BOARDS POINT-TO-POINT WIRING DIAGRAM